

## Improved Nyquist Filter and Method

### ABSTRACT

5     An improved Nyquist filter can be used as a matched filter in a digital  
communications system. This filter is characterized in that the frequency domain  
response meets the Nyquist criteria and that the square root of the frequency domain  
response has a first derivative that is continuous at all points. In other embodiments, the  
square root of the frequency domain response continuous over all points for all higher  
order derivatives.

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